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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,191	12/05/2003	Gary L. Swoboda	TI-34672	2408

23494 7590 07/30/2010

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EXAMINER	
WOOLCOCK, MADHU	

ART UNIT	PAPER NUMBER
2451	

NOTIFICATION DATE	DELIVERY MODE
07/30/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary	Application No.	Applicant(s)	
	10/729,191	SWOBODA ET AL.	
	Examiner	Art Unit	
	MADHU WOOLCOCK	2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to amendment filed on 05/05/2010. Claims 1, 6 and 9 have been amended and claims 5 and 11 were previously cancelled. Claims 1-4 and 6-10 remain pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 6 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the claim is amended to recite a capacity of an information field having a shortest length among differing lengths. The originally filed specification is silent regarding information fields of differing lengths or a particular capacity having a shortest length among the differing lengths. The claim is amended to include limitation narrower than what is supported in the original specification. The most relevant portion found was paragraph [0031] which recites a 2-bit extension portion and an 8-bit payload portion. However, this does not support fields of differing lengths or a shortest length among said differing lengths.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what exactly the claimed "information fields of differing lengths" is intended to represent (i.e., the individual payload portions of each packet, the entire data of a packet, the content of the subgroup/group field, etc). Further, given that the information fields are indistinct, it is unclear the information field which has a shortest length and what this shortest length is relative to. It is unclear how each packet could have a shortest of differing lengths. It is also unclear if the claimed "capacity" is intended to refer to a specific size or amount other than simply the capability of a packet to carry its respective information.

Response to Arguments

4. Applicant's arguments regarding the applied references failing to teach independent claims 1, 6 and 9, as amended to include information fields of differing lengths, have been fully considered but they are not persuasive. Specifically, as cited below, paragraph [0118] of the Maes reference explicitly teaches a Segment Length field and indicators of the number of bytes of each Segment. Additionally, paragraph [0123] discloses an example of a frame length as 44 bits. Therefore Maes teaches

frames, or packets, with capacity to carry information of a particular length. The rejection is therefore maintained.

5. Applicant's arguments with respect to the amendments to independent claims 1, 6 and 9 to include "captured from a data processor while in use for processing operations performed by the data processor" have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maes (US 2002/0184373) in view of Jensen (US 2002/0143988) in view of Kapoor (US 5,818,852) and in further view of McCullough et al. (US 6,615,371).

Regarding claim 1, Maes teaches a method of producing a packet group for use in a trace stream of packets that includes a plurality of packet groups, wherein the trace stream of packets carries information fields, wherein the trace stream of packets accommodates information fields of differing lengths, and wherein each said packet

provides capacity to carry a respective said information field having a shortest length among said differing lengths, the method comprising:

providing at least one said packet as at least one header (Segment Header) within the packet group (Segment) [0114]; and

arranging at least one plurality of further said packets (frames) to form a corresponding at least one packet subgroup (Block) within the packet group (Segment) ([0114], see FIG. 3), wherein said further packets of said at least one packet subgroup are provided to carry respective portions of at least one said information field that is longer than said shortest length (The Segment Length field includes a value that indicates the total number of bytes of the corresponding Segment, [0118]);

wherein a first of said further packets (IntraFrame) includes first features [0111], wherein said payload provides said capacity (The length of a frame is 44 bits, [0123]), wherein a remainder of said further packets (InterFrame) follow the first packet (IntraFrame) in said at least one packet subgroup (Block) (IntraFrame is the first frame of a Block, [0111]), and wherein each of said remainder of said further packets (InterFrames) has a second feature that differs from said first extension portion (the InterFrames may be coded differently than the IntraFrames, [0112]).

However, Maes does not explicitly disclose each of said further packets having an extension portion and a payload portion or wherein a first of said packets includes a first said extension portion and wherein each remainder of said further packets has a second said extension portion.

Jensen teaches wherein each further packet has an extension portion (first frame fragment indicator (FFFI), 315 of FIG. 3) and a payload portion (payload data, 305 of FIG. 3); and

wherein a first of said further packets (frame fragment 405_1 of FIG. 4) includes a first said extension portion (FFFI is set to TRUE, 430_1 of FIG. 4), and wherein each remainder of said further packets (405_2 and 405_3 of FIG. 4) has a second extension portion (FALSE, 430_2 and 430_3 of FIG. 4).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize an extension portion in each packet in the system/method of Maes as suggested by Jensen in order to be able to identify the first packet verses following packets of a subgroup when they are not otherwise coded differently. One would be motivated to combine these teachings because in doing so the system/method could be used in a wider range of implementations for various types of data.

However, although Maes teaches a field in the header packet (Segment Header) which indicates the number of packets (frames) in the packet group (Segment), Maes-Jensen do not explicitly disclose a field in the header packet indicating a number of packet subgroups provided in the packet group.

Kapoor teaches wherein at least one header packet includes a portion that indicates a number of packet subgroups provided in a packet group (the header may also include the number of subframes in the frame, column 3 lines 15-17).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize a header which includes the number of subframes in a frame

in the system/method of Maes-Jensen as suggested by Kapoor because doing so would provide improved identification information to a receiver regarding a group (or frame). One would be motivated to combine these teachings because it would also allow for an indication of how to determine the end of a Segment which comprises a different number of frames per Block.

However, Maes-Jensen-Kapoor do not explicitly disclose information fields that have been captured from a data processor while in use for processing operation performed by the data processor.

McCullough teaches information fields that have been captured from a data processor while in use for processing operation performed by the data processor (information regarding the processor execution (for example, step-by-step functioning in the processor), column 1 lines 16-18).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize trace reporting in the system/method of Maes-Jensen-Kapoor as suggested by McCullough in order to provide faster troubleshooting and debugging of hardware and software. One would be motivated to combine these teachings because it would help to ensure an efficient and error-free system.

Regarding claim 2, Maes teaches the method as recited in claim 1 wherein said packet group (e.g. Speech Segment of FIG. 3) ends when a next packet of the trace stream (e.g. Silence Segment Header of FIG. 3) that immediately follows a packet of the last

packet subgroup (third Block of the first Segment, FIG. 3) does not have the feature of the remainder of packets (InterFrame).

However, Maes does not explicitly disclose the remainder of packets feature being a second extension portion.

Jensen teaches the remainder of packets feature being a second extension portion (FALSE, 430_2 and 430_3 of FIG. 4).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize an extension portion in each packet in the system/method of Maes as suggested by Jensen in order to be able to identify the first packet verses following packets of a subgroup when they are not otherwise coded differently. One would be motivated to combine these teachings because in doing so the system/method could be used in a wider range of implementations for various types of data. However, although Maes teaches a field in the header packet (Segment Header) which indicates the number of packets (frames) in the packet group (Segment), Maes-Jensen do not explicitly disclose a field in the header packet indicating a number of packet subgroups provided in the packet group.

Regarding claim 3, Maes teaches the method as recited in claim 2 wherein said next packet (e.g. Silence Segment Header of FIG. 3) begins a new packet group (second Segment of FIG. 3).

Regarding claim 4, Maes teaches the method as recited in claim 1 where said number of packets (e.g., specifies N3 silence frames, FIG. 3), permit identification of a next successive packet subgroup (block) in the trace stream even though said next successive packet group lacks a header packet to identify said position (Given that Maes teaches Segment Headers which specify the number of frames per segment it would be obvious that the system/method will determine when one Segment ends and another begins without the need to insert an additional File Header, see FIG. 3).

However, Maes does not explicitly disclose a first and second extension portions permit a position in the trace stream.

Jensen teaches a first (FFFI is TRUE) and second extension (FFFI is FALSE) portion permit a position in a trace stream [0029].

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize an extension portion in each packet in the system/method of Maes as suggested by Jensen in order to be able to identify the first packet verses following packets of a subgroup when they are not otherwise coded differently. This would provide a way to identify the frames position in the segment. One would be motivated to combine these teachings because in doing so the system/method could be used in a wider range of implementations for various types of data.

However, Maes-Jensen do not explicitly disclose said number of packet subgroups permit a position in the trace stream.

Kapoor teaches said number of packet subgroups permit a position in the trace stream (the header may also include the number of subframes in the frame, column 3 lines 14-22).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize a header which includes the number of subframes in a frame in the system/method of Maes-Jensen as suggested by Kapoor because doing so would provide improved identification information to a receiver regarding a group (or frame). One would be motivated to combine these teachings because it would also allow for an indication of how to determine the end of a Segment which comprises a different number of frames per Block.

Regarding claim 6, Maes teaches a system comprising:

a trace stream of packets accommodates information fields of differing lengths (The Segment Length field includes a value that indicates the total number of bytes of the corresponding Segment, [0118]), and wherein each said packet provides capacity to carry a respective said information field having a shortest length among said differing lengths (The length of a frame is 44 bits, [0123]), the trace stream of packets comprising a sequence of packet groups, each said packet group including:

at least one said packet provided as the at least one header packet (Segment Header, [0114]); and

at least one packet subgroup (Block) containing a plurality of further packets (frames) ([0114], see FIG. 3), wherein said further packets of said at least one packet

subgroup are provided to carry respective portions of at least one said information field that is longer than said shortest length (The Segment Length field includes a value that indicates the total number of bytes of the corresponding Segment, [0118]);

wherein a first of said further packets (IntraFrame) includes first features [0111], wherein said payload provides said capacity (The length of a frame is 44 bits, [0123]), wherein a remainder of said further packets (InterFrame) follow the first packet (IntraFrame) in said at least one packet subgroup (Block) (IntraFrame is the first frame of a Block, [0111]), and wherein each of said remainder of said further packets (InterFrames) has a second feature that differs from said first extension portion (the InterFrames may be coded differently than the IntraFrames, [0112]).

However, Maes does not explicitly disclose each of said further packets having an extension portion and a payload portion or wherein a first of said packets includes a first said extension portion and wherein each remainder of said further packets has a second said extension portion.

Jensen teaches wherein each further packet has an extension portion (first frame fragment indicator (FFFI), 315 of FIG. 3) and a payload portion (payload data, 305 of FIG. 3); and

wherein a first of said further packets (frame fragment 405_1 of FIG. 4) includes a first said extension portion (FFFI is set to TRUE, 430_1 of FIG. 4), and wherein each remainder of said further packets (405_2 and 405_3 of FIG. 4) has a second extension portion (FALSE, 430_2 and 430_3 of FIG. 4).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize an extension portion in each packet in the system/method of Maes as suggested by Jensen in order to be able to identify the first packet verses following packets of a subgroup when they are not otherwise coded differently. One would be motivated to combine these teachings because in doing so the system/method could be used in a wider range of implementations for various types of data.

However, although Maes teaches a field in the header packet (Segment Header) which indicates the number of packets (frames) in the packet group (Segment), Maes-Jensen do not explicitly disclose a field in the header packet indicating a number of packet subgroups provided in the packet group.

Kapoor teaches wherein at least one header packet includes a portion that indicates a number of packet subgroups provided in a packet group (the header may also include the number of subframes in the frame, column 3 lines 15-17).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize a header which includes the number of subframes in a frame in the system/method of Maes-Jensen as suggested by Kapoor because doing so would provide improved identification information to a receiver regarding a group (or frame). One would be motivated to combine these teachings because it would also allow for an indication of how to determine the end of a Segment which comprises a different number of frames per Block.

However, Maes-Jensen-Kapoor do not explicitly disclose a host processing unit or a target processor, the target processor transmitting a trace stream of packets to the

host processing unit, wherein the trace stream of packets carries information fields that have been captured from the target processor while in use for processing operations performed by the target processor.

McCullough teaches a processor test and debug system, the system comprising:

a host processing unit (host computer 7, column 3 line 58); and

a target processor (target device includes an integrated circuit 1 (containing one or more processors), column 3 lines 37-39), the target processor transmitting a trace stream of packets to the host processing unit, wherein the trace stream of packets carries information fields that have been captured from the target processor while in use for processing operations performed by the target processor (information regarding the processor execution (for example, step-by-step functioning in the processor, column 1 lines 16-18).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize trace reporting in the system/method of Maes-Jensen-Kapoor as suggested by McCullough in order to provide faster troubleshooting and debugging of hardware and software. One would be motivated to combine these teachings because it would help to ensure an efficient and error-free system.

Regarding claim 7, this system claim comprises limitation(s) substantially the same as those discussed on claim 2 above, same rationale of rejection is applicable.

Regarding claim 8, this system claim comprises limitation(s) substantially the same as those discussed on claim 3 above, same rationale of rejection is applicable.

Regarding claim 9, Maes teaches a method for transferring information, wherein the trace stream of packets accommodates information fields of differing lengths, and wherein each said packet provides capacity to carry a respective said information field having a shortest length among said differing lengths, the method comprising:

dividing the packets into packet groups (the RECOVC File further comprises one or more Segments, [0114]);

formatting each packet group (Segment) to provide at least one said packet as at least one header packet (corresponding Segment Header, [0114]); and

formatting each packet group (Segment) to include at least one packet subgroup (Block) containing a plurality of further packets (each Block comprises a single IntraFrame and one or more InterFrames, [0111]),

wherein said further packets of said at least one packet subgroup are provided to carry respective portions of at least one said information field that is longer than said shortest length (The Segment Length field includes a value that indicates the total number of bytes of the corresponding Segment, [0118]);

wherein a first of said further packets (IntraFrame) includes first features [0111], wherein said payload provides said capacity (The length of a frame is 44 bits, [0123]), wherein a remainder of said further packets (InterFrame) follow the first packet (IntraFrame) in said at least one packet subgroup (Block) (IntraFrame is the first frame

of a Block, [0111]), and wherein each of said remainder of said further packets (InterFrames) has a second feature that differs from said first extension portion (the InterFrames may be coded differently than the IntraFrames, [0112]).

However, Maes does not explicitly disclose each of said further packets having an extension portion and a payload portion or wherein a first of said packets includes a first said extension portion and wherein each remainder of said further packets has a second said extension portion.

Jensen teaches wherein each further packet has an extension portion (first frame fragment indicator (FFFI), 315 of FIG. 3) and a payload portion (payload data, 305 of FIG. 3); and

wherein a first of said further packets (frame fragment 405_1 of FIG. 4) includes a first said extension portion (FFFI is set to TRUE, 430_1 of FIG. 4), and wherein each remainder of said further packets (405_2 and 405_3 of FIG. 4) has a second extension portion (FALSE, 430_2 and 430_3 of FIG. 4).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize an extension portion in each packet in the system/method of Maes as suggested by Jensen in order to be able to identify the first packet verses following packets of a subgroup when they are not otherwise coded differently. One would be motivated to combine these teachings because in doing so the system/method could be used in a wider range of implementations for various types of data.

However, although Maes teaches a field in the header packet (Segment Header) which indicates the number of packets (frames) in the packet group (Segment), Maes-

Jensen do not explicitly disclose a field in the header packet indicating a number of packet subgroups provided in the packet group.

Kapoor teaches wherein at least one header packet includes a portion that indicates a number of packet subgroups provided in a packet group (the header may also include the number of subframes in the frame, column 3 lines 15-17).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize a header which includes the number of subframes in a frame in the system/method of Maes-Jensen as suggested by Kapoor because doing so would provide improved identification information to a receiver regarding a group (or frame). One would be motivated to combine these teachings because it would also allow for an indication of how to determine the end of a Segment which comprises a different number of frames per Block.

However, Maes-Jensen-Kapoor do not explicitly disclose transferring information from a target processor to a host processing unit in a trace stream of packets, wherein the trace stream of packets carries information fields that have been captured from a data processor while in use for processing operation performed by the data processor.

McCullough teaches transferring information from a target processor (target device includes an integrated circuit 1 (containing one or more processors), column 3 lines 37-39) to a host processing unit (host computer 7, column 3 line 58) in a trace stream of packets, wherein the trace stream of packets carries information fields that have been captured from a data processor while in use for processing operation

performed by the data processor (information regarding the processor execution (for example, step-by-step functioning in the processor, column 1 lines 16-18).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize trace reporting in the system/method of Maes-Jensen-Kapoor as suggested by McCullough in order to provide faster troubleshooting and debugging of hardware and software. One would be motivated to combine these teachings because it would help to ensure an efficient and error-free system.

Regarding claim 10, this method claim comprises limitation(s) substantially the same as those discussed on claim 2 above, same rationale of rejection is applicable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MADHU WOOLCOCK whose telephone number is (571)270-3629. The examiner can normally be reached on Monday-Thursday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. W./
Examiner, Art Unit 2451

/John Follansbee/
Supervisory Patent Examiner, Art Unit 2451